



November 30, 2017
Kleinfelder Project No.: 20170744.001A

Mr. Jim McNulty
Development Services Manager
Murray City Public Services
4646 South 500 West
Murray, Utah 84123

**SUBJECT: BARRIER MAINTENANCE AND MONITORING
ANNUAL REPORT 2017
MURRAY COSTCO WHOLESALE WAREHOUSE #764
5201 SOUTH INTERMOUNTAIN DRIVE
MURRAY, UTAH**

Dear Mr. McNulty:

This report documents surface barrier monitoring, storm drain inspections and barrier maintenance conducted at the Murray Costco Wholesale Warehouse (Site) referenced above during 2017. Kleinfelder conducted semi-annual barrier inspections on June 14 and October 20, 2017. The barriers were inspected according to the Site Barrier Maintenance and Monitoring Plan (BMMP) dated August 8, 2002, and amended June 6, 2016. The inspection included visually examining select storm drain drop inlets (SDDIs) and ground surface barriers, noting defects (if any), and making recommendations for repairs. Barrier integrity will be maintained by making repairs to the affected areas, as necessary. Information collected during the inspections was recorded on the Barrier Inspection Map, and the Storm Drain Inspection Checklist. Inspection records for June and October are included in Attachment A. In general, typical wear and tear was observed on the Site landscaping, asphalt and concrete barriers as described below. No breach in the barriers was observed during the inspections that would indicate an exposure potential to the Site subsurface impacted soils and/or groundwater.

Three Site maintenance/improvement activities were conducted in 2017 that were not related to barrier maintenance. Each of these activities required obtaining a Smelter Site Overlay District (SSOD) excavation permit from Murray City. That work is summarized herein.

LANDSCAPING BARRIERS

During the June and October inspections, the landscaping barriers were in place and did not display signs of settlement, soil erosion, or soil damage from vehicles; soil depressions or differences in barrier elevations with standing water; channels in the soil; damaged, missing, or ineffective erosion control systems, with the following exception:

- Landscaping settlement approximately up to 2 to 4 inches deep was observed in four locations within the landscaped curbing directly north/northwest of the store entrance in June and in four landscaped areas in October, as indicated on the Barrier Inspection Maps included in Attachment A.

Kleinfelder recommended that additional mulch be placed in these areas.

ASPHALTIC CONCRETE BARRIERS

During the June and October inspections, asphaltic barriers contained cracks indicative of normal wear, many of which have been sealed with tar. Slight settling was observed along many tar-sealed cracks, creating additional cracks throughout the Site. Additional cracks, not presently sealed, were observed throughout the parking areas. It is suggested that when the weather permits, these additional cracks, along with worn seals be re-sealed. During the June inspection, potholes up to 3 foot in diameter, were observed in the north parking area, located to the south and east of the northernmost entrance, as indicated on the June 2017 Site inspection Map in Attachment A. The potholes were repaired and not evident during the October inspection. It should be noted, that during the inspections, Kleinfelder did not observe any soils breaching the asphalt/concrete surface in the noted cracks and potholes observed.

CONCRETE BARRIERS

Chipped concrete barriers were observed and settled concrete was also observed to the southeast of the fueling area, adjacent to a storm drain. The remainder of the concrete barriers were in place at the Site, including sidewalks, curbs and gutters, loading platforms, and parking areas. The inspection included a check of all sealed joints (present at the fuel center) and did not identify any large cracks or separations.

WAREHOUSE BUILDING (CONCRETE BARRIER)

Minor concrete chipping was observed to the northeast of the main warehouse entrance. The remainder of the concrete barriers were in place around the exterior of the warehouse building, and all joints were sealed. No significant cracks, holes, settlement areas, or other physical features that would indicate the integrity of the barrier had been compromised were observed during the barrier inspection. No maintenance actions are needed at this time.

STORM DRAIN DROP INLET INSPECTION

Selected SDDIs were inspected to assess whether groundwater is leaking into the storm drain system via the drain vaults. Based upon previous Site investigations and storm drain repairs, inspections of SDDI-3, SDDI-4, SDDI-5 and SDDI-6 were included as part of the Site BMMP. Inspection and reporting requirements are outlined in Addendum 2 to the BMMP, dated June 6, 2016.

The selected storm drains (SDDI-1 through SDDI-9) were inspected by a Kleinfelder field engineer on June 14, and October 20, 2017. The inspection checklists are included in Attachment A. During the inspections, standing water was observed in all nine drains at the approximate level of the inlets and outlets. The sidewalls of the storm drains were generally dry. No groundwater leaks were evident in the storm drains, and the repaired areas appeared to remain intact with no apparent leakage.

SITE BARRIER REPAIR WORK

No Site repairs were conducted to the storm drains in 2017. Maintenance of the pavement was performed to repair potholes. Three Site maintenance/improvement activities were conducted in 2017 that were not related to barrier maintenance. Each of these activities required an SSOD permit from Murray City. A brief description of the maintenance activities is provided in this report.

The SSOD permits submitted to Murray City for these activities provide more detailed information. The maintenance/improvement activities were:

- Utility Box Conduit Daylighting and Landscape Maintenance
- Water Main Piping Repair
- North Driveway Expansion

Soil Disposal from Landscape Maintenance and Utility Box Excavation

Costco retained a private electrical contractor to daylight a utility conduit near the southeast corner of the Costco property, in the grass near State Street and 5400 South. Kleinfelder prepared and submitted a draft SSOD excavation permit and Site-specific health and safety plan to Murray City for that work on June 20, 2017. Preliminary hand digging for the utility work was conducted in an area approximately 3 by 3 feet by 2 feet deep. The digging produced approximately 4 cubic feet of soil that was placed in seven 5-gallon buckets. The excavated area was refilled, temporarily covered with visqueen and marked with safety cones. The utility work was delayed and repairs will not be conducted in 2017. The area has been covered with 6 inches of clean fill. Photographs of the utility work area and buckets of soil are provided in Attachment B.

Landscape work conducted in June produced approximately 3 cubic yards of soil and plant debris that was stockpiled at the Site and covered with visqueen. Kleinfelder sampled the soils for disposal profiling. The metals concentrations in soil reported by the laboratory did not exceed the Toxicity Characteristic Leaching Potential (TCLP) concentrations that determine whether a material is hazardous. The soil was therefore disposed at the Salt Lake Valley Solid Waste Landfill on August 25, 2017. Photographs of the soil removal and the laboratory analytical report for the utility and landscape soil are included in Attachment B.

Water Main Piping Repair

Costco determined the building water supply main line was leaking and requested permission from Murray City to perform emergency repairs. Kleinfelder submitted an SSOD excavation permit application and Site-specific health and safety plan to Murray City on Costco's behalf on September 8, 2017. The water main repairs were performed on September 10. The repairs consisted of excavating an approximate 10 foot long trench near the northeast corner of the building to a depth of approximately 4 feet. The pipeline was repaired and the soils replaced in the excavation. The area was repaved the following day. No excess soils were produced.

North Driveway Expansion

Costco decided to widen the northernmost parking lot entrance to improve visual clearance, safety and delivery truck ingress/egress. Kleinfelder submitted an SSOD excavation permit application and Site-specific health and safety plan to Murray City on Costco's behalf on October 16, 2017. The driveway expansion work consisted of removing a portion of the existing landscaping south of the paved driveway in an approximate triangular shape, and paving that area to widen the driveway entrance. Soil within the landscaped area was removed to approximately 2 feet below surface grade and replaced with engineered fill material. The excavation was capped with 6-inches of clean road base and a minimum of 3 inches of asphalt pavement. Kleinfelder collected representative soil samples for laboratory analysis of total RCRA and TCLP metals for disposal profiling. The metals concentrations in soil reported by the laboratory did not exceed the Toxicity Characteristic Leaching Potential (TCLP) concentrations that determine whether a material is hazardous. The soil was therefore disposed at the Salt Lake Valley Solid Waste Landfill on

November 10 and 11, 2017. Approximately 180 cubic yards of soil was disposed. Photographs of the project work and the laboratory analytical report for the driveway soil are included in Attachment C.

MONITORING INSPECTION SCHEDULE

Costco's owner representative will conduct barrier inspections on a semi-annual basis to ensure the barriers are maintained in a manner to prevent human exposure to subsurface soils. The next inspection is scheduled for June 2018.

LIMITATIONS

This work was performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions and at the date the services are provided. Our conclusions, opinions and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. Kleinfelder makes no other representation, guarantee or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

Please contact us at 801.261.3336 if you have any questions or desire additional information.

Sincerely,

KLEINFELDER, INC.



Jennifer Micovic
Professional



Corinne Hillard, P.G.
Senior Project Manager

ATTACHMENTS

Attachment A: Storm Drain Inspection Checklists -June and October, 2017
Barrier Inspection Maps - June and October, 2017

Attachment B: Photographs and Laboratory Analytical Report- Utility Work and Landscape Soils

Attachment C: Photographs and Laboratory Analytical Report- Driveway Expansion

cc: Diane Carter – COSTCO
Jeff Warner – COSTCO
Michael Storck – Utah DERR
Erna Waterman- EPA



KLEINFELDER

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Attachment A

ATTACHMENT A

June 14, 2017 and October 20, 2017
Storm Drain Inspection Checklist
Barrier Inspection Map



Costco Wholesale Warehouse Murray, Utah

Storm Drain Inspection Checklist

DATE:

6/14/17

INSPECTOR:

JENNA
MICHAEL

1) Are seeps, cracks, or leaks visible in the storm drain?

If yes, describe:

SSDI-1:	Yes	<input checked="" type="checkbox"/>	No		MINOR CRACKS - SOME UPPER EROSION OF CONCRETE
SSDI-2:	Yes	<input checked="" type="checkbox"/>	No		"
SSDI-3:	Yes	<input checked="" type="checkbox"/>	No		"
SSDI-4:	Yes	<input checked="" type="checkbox"/>	No		"
SSDI-5:	Yes	<input checked="" type="checkbox"/>	No		"
SSDI-6:	Yes	<input checked="" type="checkbox"/>	No		"
SSDI-7:	Yes	<input checked="" type="checkbox"/>	No		"
SSDI-8:	Yes	<input checked="" type="checkbox"/>	No		"
SSDI-9:	Yes	<input checked="" type="checkbox"/>	No		"

2) Is standing water present in the storm drain?

If yes, describe:

SSDI-1:	Yes	<input checked="" type="checkbox"/>	No		* STORM EVENT FROM THE PREVIOUS DAY
SSDI-2:	Yes	<input checked="" type="checkbox"/>	No		MAY HAVE LEFT STANDING WATER IN DRAINS
SSDI-3:	Yes	<input checked="" type="checkbox"/>	No		NO WATER SEEPAGE ON SIDEWALLS
SSDI-4:	Yes	<input checked="" type="checkbox"/>	No		WAS OBSERVED IN ANY DRAINS OBSERVED.
SSDI-5:	Yes	<input checked="" type="checkbox"/>	No		
SSDI-6:	Yes	<input checked="" type="checkbox"/>	No		
SSDI-7:	Yes	<input checked="" type="checkbox"/>	No		
SSDI-8:	Yes	<input checked="" type="checkbox"/>	No		
SSDI-9:	Yes	<input checked="" type="checkbox"/>	No		

If Yes:

When was the last storm event? 6/13, DAY BEFORE RAIN EVENT.

Have any activities been conducted in the drainage area or all up slope drain inlet areas that may have put water in the system?

Yes ☐ No ☒

Any evidence of irrigation water going into the system?

Yes ☐ No ☒

3) Is running water present in the storm drain?

If yes, describe:

SSDI-1:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
SSDI-2:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
SSDI-3:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
SSDI-4:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
SSDI-5:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
SSDI-6:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
SSDI-7:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
SSDI-8:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
SSDI-9:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>

If Yes:

When was the last storm event?

Yes ☐ No ☐

N/A

Is running water present in up slope storm drains?

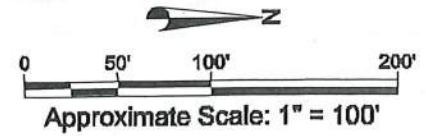
Yes ☐ No ☒

Is running water present in down slope storm drains?



Yes ☐ No ☒





Corrective Action Taken:

6/14/17



BARRIER LEGEND

-  ASPHALT PAVEMENT (APPROX. 375,000 SQ FEET)
-  CONCRETE SURFACE (APPROX. 182,000 SQ FEET)
-  LANDSCAPE AREA (APPROX. 151,000 SQ FEET)
(6" TO 12" OF TOPSOIL)
-  SDDI#5 ■ STORM DRAIN INLET
-  ASPHALT PAVEMENT REPAIR COMPLETED IN JULY 2003

-  CONCRETE / ASPHALT CRACKS
-  SETTLING
-  CONCRETE DAMAGE
-  POTHOLES

5300 SOUTH STREET

STATE STREET

NEW ROAD

SDDI#13 SDDI#12

SDDI#1 SDDI#2 SDDI#3 SDDI#4 SDDI#5

SDDI#6

SDDI#11

SDDI#7

SDDI#8

SDDI#10

SDDI#9

COSTCO



COSTCO - Murray Smelter Site
5300 South State Street
Salt Lake City, Utah

SITE BARRIER PLAN

FIGURE

1

SLC3d318.dwg



Costco Wholesale Warehouse Murray, Utah

Storm Drain Inspection Checklist

DATE: 6/20/17

INSPECTOR: JENNA MICOVIC

1) Are seeps, cracks, or leaks visible in the storm drain?

If yes, describe:

SSDI-1:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	MINOR CRACKS IN SIDEWALL, YET NO WATER OBSERVED SEEPING THROUGH. /
SSDI-2:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	"
SSDI-3:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	"
SSDI-4:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	"
SSDI-5:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	"
SSDI-6:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	"
SSDI-7:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	"
SSDI-8:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	"
SSDI-9:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	"

UPPER EROSION OF THE CONCRETE

2) Is standing water present in the storm drain?

If yes, describe:

SSDI-1:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	SMALL AMOUNT OF WATER W/ LEAVES / DEGRADATION ON
SSDI-2:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	BOTTOM.
SSDI-3:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	
SSDI-4:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	
SSDI-5:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	
SSDI-6:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	SMALL AMOUNT OF MOISTURE ON BOTTOM.
SSDI-7:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
SSDI-8:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	SMALL AMOUNT OF WATER ON BOTTOM
SSDI-9:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	SOME WATER ON BOTTOM

If Yes:

When was the last storm event? 7-2 WEEKS

Have any activities been conducted in the drainage area or all up slope drain inlet areas that may have put water in the system?

Yes ☐ No ☒ NOTHING OBSERVED

Any evidence of irrigation water going into the system?

Yes ☐ No ☐

3) Is running water present in the storm drain?

If yes, describe:

SSDI-1:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	
SSDI-2:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	
SSDI-3:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	
SSDI-4:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	
SSDI-5:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	
SSDI-6:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	
SSDI-7:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	
SSDI-8:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	
SSDI-9:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	

If Yes:

When was the last storm event?

Yes ☐ No ☐ N/A

Is running water present in up slope storm drains?

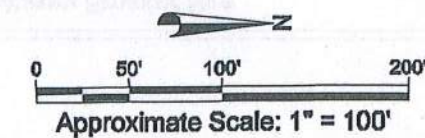
Yes ☐ No ☒

Is running water present in down slope storm drains?

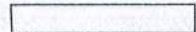
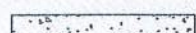

Yes ☐ No ☒


Corrective Action Taken:




10/20/17

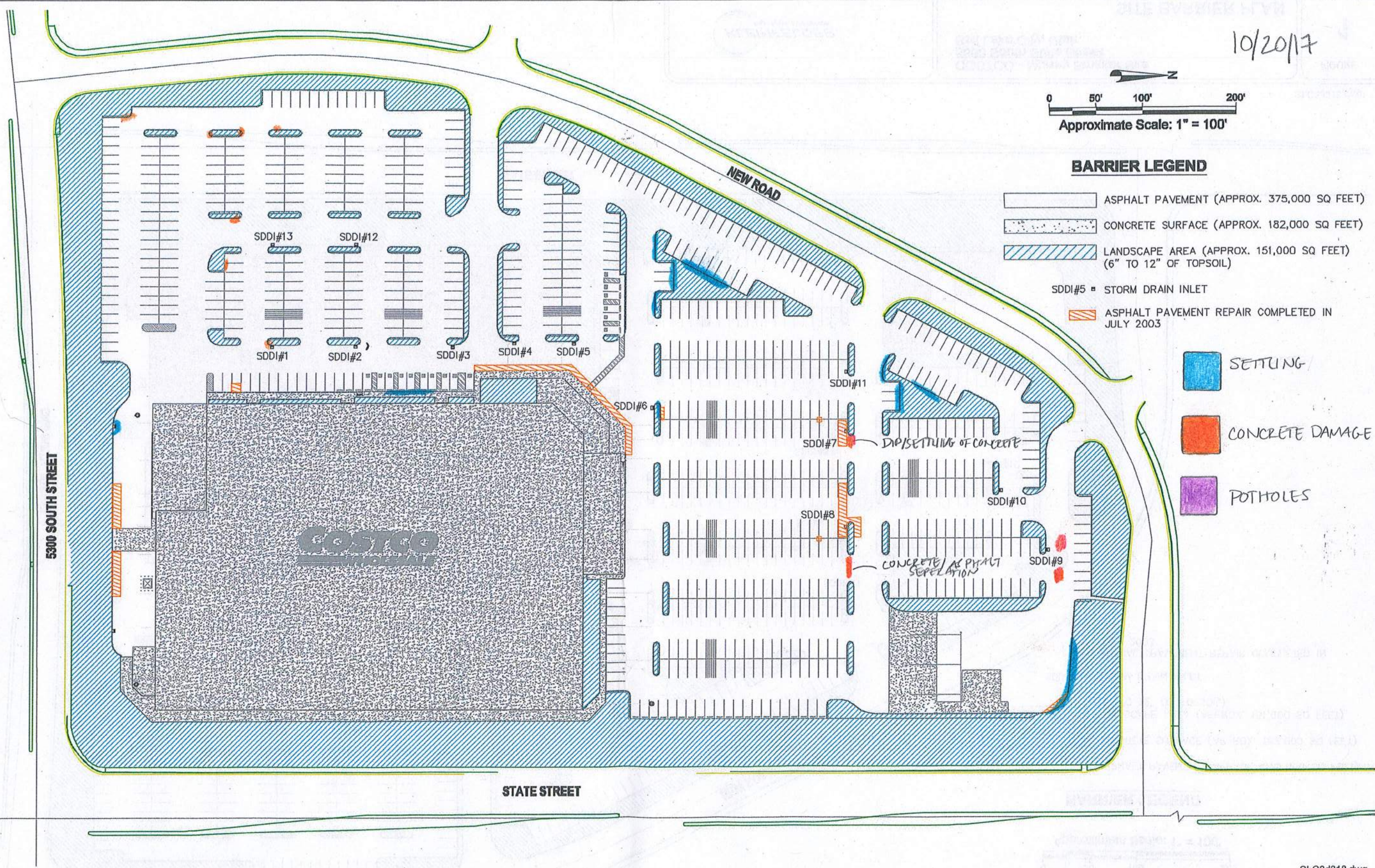


BARRIER LEGEND

-  ASPHALT PAVEMENT (APPROX. 375,000 SQ FEET)
-  CONCRETE SURFACE (APPROX. 182,000 SQ FEET)
-  LANDSCAPE AREA (APPROX. 151,000 SQ FEET)
(6" TO 12" OF TOPSOIL)

- SDDI#5 ■ STORM DRAIN INLET
-  ASPHALT PAVEMENT REPAIR COMPLETED IN JULY 2003

-  SETTLING
-  CONCRETE DAMAGE
-  POTHOLES



SLC3d318.dwg



COSTCO - Murray Smelter Site
5300 South State Street
Salt Lake City, Utah

SITE BARRIER PLAN

FIGURE
1



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Attachment B

ATTACHMENT B

Site Photographs and Laboratory Analytical Reports

June 2017 – Utility Excavation and Landscape Soils

Costco Utility Daylighting Area 6-5-17



Buckets of soil and utility conduit work area.



Utility box excavation area under visqueen.

Costco Landscape Soil 8-25-17



Buckets of soil from utility conduit excavation



Landscape soil under visqueen preparing to load for disposal.



Corinne Hillard
Kleinfelder-SLC
849 West Levoe Drive, Suite 200
Taylorsville, UT 84123
TEL: (801) 261-3336

RE: Murray Soil / 20180894

Dear Corinne Hillard:

Lab Set ID: 1706197

3440 South 700 West
Salt Lake City, UT 84119

American West Analytical Laboratories received sample(s) on 6/8/2017 for the analyses presented in the following report.

American West Analytical Laboratories (AWAL) is accredited by The National Environmental Laboratory Accreditation Program (NELAP) in Utah and Texas; and is state accredited in Colorado, Idaho, New Mexico, Wyoming, and Missouri.

Phone: (801) 263-8686
Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com
web: www.awal-labs.com

All analyses were performed in accordance to the NELAP protocols unless noted otherwise. Accreditation scope documents are available upon request. If you have any questions or concerns regarding this report please feel free to call.

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

The abbreviation "Surr" found in organic reports indicates a surrogate compound that is intentionally added by the laboratory to determine sample injection, extraction, and/or purging efficiency. The "Reporting Limit" found on the report is equivalent to the practical quantitation limit (PQL). This is the minimum concentration that can be reported by the method referenced and the sample matrix. The reporting limit must not be confused with any regulatory limit. Analytical results are reported to three significant figures for quality control and calculation purposes.

Thank You,

Approved by:

Kyle F. Gross	Digitally signed by Kyle F. Gross
	Date:
	2017.06.13 12:24:44 -06'00'

Laboratory Director or designee



INORGANIC ANALYTICAL REPORT

Client: Kleinfelder-SLC
Project: Murray Soil / 20180894
Lab Sample ID: 1706197-001
Client Sample ID: CM-1
Collection Date: 6/8/2017 820h
Received Date: 6/8/2017 846h

Contact: Corinne Hillard

Analytical Results

TOTAL METALS

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Arsenic	mg/kg-dry	6/9/2017 1130h	6/9/2017 1538h	SW6020B	2.31	182	²
Barium	mg/kg-dry	6/9/2017 1130h	6/9/2017 1538h	SW6020B	4.16	134	²
Cadmium	mg/kg-dry	6/9/2017 1130h	6/9/2017 1538h	SW6020B	0.786	20.1	³
Chromium	mg/kg-dry	6/9/2017 1130h	6/9/2017 1538h	SW6020B	9.25	20.2	
Lead	mg/kg-dry	6/9/2017 1130h	6/9/2017 1923h	SW6020B	15.0	526	²
Mercury	mg/kg-dry	6/10/2017 1330h	6/12/2017 759h	SW7471B	0.0449	5.81	³
Selenium	mg/kg-dry	6/9/2017 1130h	6/9/2017 1538h	SW6020B	7.86	< 7.86	
Silver	mg/kg-dry	6/9/2017 1130h	6/9/2017 1538h	SW6020B	1.39	1.71	

² - Analyte concentration is too high for accurate matrix spike recovery and/or RPD.

³ - Matrix spike recoveries and/or high RPDs indicate suspected sample non-homogeneity. The method is in control as indicated by the LCS.

3440 South 700 West
Salt Lake City, UT 84119

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Toll Free: (888) 263-8686
Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

WORK ORDER SUMMARY

Client: Kleinfelder-SLC

Client ID: KLE100

Project: Murray Soil

Comments: 5 Day Rush;

Contact: Corinne Hillard

QC Level: I

WO Type: Standard

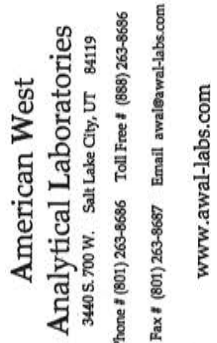
Work Order: 1706197

Page 1 of 1

Due Date: 6/15/2017

DB

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel Storage
1706197-001A	CM-1	6/8/2017 0820h	6/8/2017 0846h	3051A-ICPMS-PR	Soil	df - metals
				6020B-S		df - metals
				7 SEL Analytes: AS BA CD CR PB SE AG		
				HG-S-7471B		df - metals
				1 SEL Analytes: HG		
				HG-S-PR-B		df - metals
				PMOIST		df - metals



CHAIN OF CUSTODY

1706197

All analysis will be conducted using NELAP accredited methods and all data will be reported using AWAL's standard analyte lists and reporting limits (FQCL) unless specifically requested otherwise on this Chain of Custody and/or attached documentation.

AWAL Lab Sample Set #
Page of

[illegible]



Corinne Hillard
Kleinfelder-SLC
849 West Levoe Drive, Suite 200
Taylorsville, UT 84123
TEL: (801) 261-3336

RE: Murray Soil / 20180894

Dear Corinne Hillard:

Lab Set ID: 1706197

3440 South 700 West
Salt Lake City, UT 84119

American West Analytical Laboratories received sample(s) on 6/8/2017 for the analyses presented in the following report.

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The abbreviation "Surr" found in organic reports indicates a surrogate compound that is intentionally added by the laboratory to determine sample injection, extraction, and/or purging efficiency. The "Reporting Limit" found on the report is equivalent to the practical quantitation limit (PQL). This is the minimum concentration that can be reported by the method referenced and the sample matrix. The reporting limit must not be confused with any regulatory limit. Analytical results are reported to three significant figures for quality control and calculation purposes.

This is an addendum to a report originally issued 6/13/2017.

This is a revision to an addendum originally issued 6/19/2017. Information herein supersedes that of the previously issued reports. All pages have been revised. The analytical results for method SW6020B have been corrected.

Thank You,

Approved by:

Jose G. Rocha
Digitally signed by Jose G. Rocha
DN: cn=Jose G. Rocha,
o=American West Analytical
Laboratories, ou,
email=jose@awal-labs.com,
c=US
Date: 2017.06.19 16:48:33
-06'00'

Laboratory Director or designee

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer



INORGANIC ANALYTICAL REPORT

Client: Kleinfelder-SLC
Project: Murray Soil / 20180894
Lab Sample ID: 1706197-001
Client Sample ID: CM-1
Collection Date: 6/8/2017 820h
Received Date: 6/8/2017 846h

Contact: Corinne Hillard

Analytical Results

TCLP METALS Method 1311

TCLP Prep Date: 6/15/2017 1910h

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Arsenic	mg/L	6/16/2017 1217h	6/18/2017 1559h	SW6020B	0.0100	0.459	^
Cadmium	mg/L	6/16/2017 1217h	6/18/2017 1559h	SW6020B	0.00250	0.359	^
Lead	mg/L	6/16/2017 1217h	6/18/2017 1559h	SW6020B	0.0500	0.271	^
Mercury	mg/L	6/16/2017 1300h	6/19/2017 753h	SW7470A	0.0100	< 0.0100	

^ - Reissue of a previously generated report. Information has been added, updated, or revised. Information herein supersedes that of the previously issued reports.

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Salt Lake City, UT 84119

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Fax: (801) 263-8687
e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

American West Analytical Laboratories 5 Day Rush

REVISED: 6-15-17

D

TCLP Cd & Hg added - DB

WORK ORDER SUMMARY

Work Order: **1706197** Page 1 of 1

Client: Kleinfelder-SLC

Client ID: KLE100

Project: Murray Soil / 20180894

Comments: 5 Day Rush. 6-14-17 - TCLP Pb & As added per Corinne Hillard. 6-15-17 - TCLP Cd and Hg added per Corinne Hillard;

Contact: Corinne Hillard

QC Level: I

WO Type: Standard

AB

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel Storage
1706197-001A	CM-1	6/8/2017 0820h	6/8/2017 0846h	1311LM-PR	Soil	df - metals
				3005A-TCLP-PR		df - metals
				3051A-ICPMS-PR		df - metals
				6020B-S		df - metals
				7 SEL Analytes: AS BA CD CR PB SE AG		
				6020B-TCLP		df - metals
				3 SEL Analytes: AS CD PB		
				HG-S-7471B		df - metals
				1 SEL Analytes: HG		
				HG-S-PR-B		df - metals
				HG-TCLP-7470A		df - metals
				1 SEL Analytes: HG		
				HG-TCLP-PR		df - metals
				PMOIST		
						df - metals



KLEINFELDER

Bright People. Right Solutions.

Attachment C

ATTACHMENT C

Site Photographs and Laboratory Analytical Report

November 2017 – Driveway Expansion Project

Costco Murray Driveway 11-10-17



Progress of soil removal.



Fuel center entrance cleaned, swept, coned off and re-opened.

Costco Murray Driveway - 11-11-17



Excavated subgrade West side.



Fabric in the excavation West side.

Costco Murray Driveway 11-13-17



Geogrid placement.



First lift of E-fill material.

Costco Murray Driveway 11-14-17



Road base placement East end.



Road base placement West end.

Costco Murray Driveway - 11-15-17



Costco Murray Driveway - 11-29-17



November 06, 2017

GSC/Kleinfelder - SLC

Sample Delivery Group: L948177
Samples Received: 11/03/2017
Project Number: 20180894
Description: Murray Soil

Report To: Corinne Hillard
849 W Levoy Dr, Ste 200
Taylorsville, UT 84123

Entire Report Reviewed By:



Shane Gambill
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



CM-1 L948177-01 Solid

				Collected by	Collected date/time	Received date/time
					11/02/17 12:31	11/03/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Total Solids by Method 2540 G-2011	WG1039054	1	11/04/17 15:31	11/04/17 15:32	JD	
Mercury by Method 7471A	WG1039098	5	11/05/17 08:10	11/06/17 10:05	ABL	
Metals (ICP) by Method 6010B	WG1039092	1	11/04/17 12:06	11/05/17 23:35	ST	



CM-1 L948177-02 Waste

				Collected by	Collected date/time	Received date/time
					11/02/17 12:31	11/03/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Preparation by Method 1311	WG1038814	1	11/03/17 11:35	11/03/17 11:35	TM	
Mercury by Method 7470A	WG1039101	1	11/05/17 10:56	11/06/17 09:20	ABL	
Metals (ICP) by Method 6010B	WG1039127	1	11/04/17 09:17	11/06/17 00:06	ST	

CM-2 L948177-03 Solid

				Collected by	Collected date/time	Received date/time
					11/02/17 12:50	11/03/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Total Solids by Method 2540 G-2011	WG1039054	1	11/04/17 15:31	11/04/17 15:32	JD	
Mercury by Method 7471A	WG1039098	1	11/05/17 08:10	11/06/17 09:27	ABL	
Metals (ICP) by Method 6010B	WG1039092	1	11/04/17 12:06	11/05/17 22:10	ST	

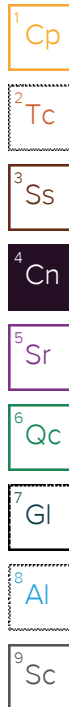
CM-2 L948177-04 Waste

				Collected by	Collected date/time	Received date/time
					11/02/17 12:50	11/03/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	
Preparation by Method 1311	WG1038814	1	11/03/17 11:35	11/03/17 11:35	TM	
Mercury by Method 7470A	WG1039101	1	11/05/17 10:56	11/06/17 09:23	ABL	
Metals (ICP) by Method 6010B	WG1039127	1	11/04/17 09:17	11/06/17 00:10	ST	



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Shane Gambill
Technical Service Representative





Total Solids by Method 2540 G-2011

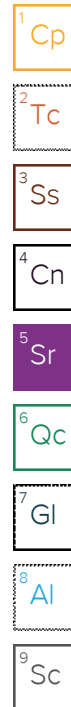
Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.5		1	11/04/2017 15:32	WG1039054

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Mercury	1.68		0.120	5	11/06/2017 10:05	WG1039098

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Arsenic	353		2.39	1	11/05/2017 23:35	WG1039092
Barium	212		0.598	1	11/05/2017 23:35	WG1039092
Cadmium	38.6		0.598	1	11/05/2017 23:35	WG1039092
Chromium	18.0		1.20	1	11/05/2017 23:35	WG1039092
Lead	553		0.598	1	11/05/2017 23:35	WG1039092
Selenium	2.39		2.39	1	11/05/2017 23:35	WG1039092
Silver	1.38		1.20	1	11/05/2017 23:35	WG1039092





Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		11/3/2017 11:35:27 AM	WG1038814
Fluid	1		11/3/2017 11:35:27 AM	WG1038814
Initial pH	8.97		11/3/2017 11:35:27 AM	WG1038814
Final pH	6.07		11/3/2017 11:35:27 AM	WG1038814

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.0100	0.20	1	11/06/2017 09:20	WG1039101

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
Arsenic	1.20		0.100	5	1	11/06/2017 00:06	WG1039127
Cadmium	0.326		0.100	1	1	11/06/2017 00:06	WG1039127
Lead	ND		0.100	5	1	11/06/2017 00:06	WG1039127

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	84.9		1	11/04/2017 15:32	WG1039054

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Mercury	0.809		0.0236	1	11/06/2017 09:27	WG1039098

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Arsenic	155	J3 J5	2.36	1	11/05/2017 22:10	WG1039092
Barium	125	J5	0.589	1	11/05/2017 22:10	WG1039092
Cadmium	23.6		0.589	1	11/05/2017 22:10	WG1039092
Chromium	14.6		1.18	1	11/05/2017 22:10	WG1039092
Lead	281	J3 J5	0.589	1	11/05/2017 22:10	WG1039092
Selenium	ND		2.36	1	11/05/2017 22:10	WG1039092
Silver	ND		1.18	1	11/05/2017 22:10	WG1039092

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Preparation by Method 1311

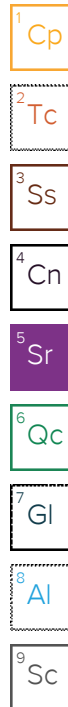
Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		11/3/2017 11:35:27 AM	WG1038814
Fluid	1		11/3/2017 11:35:27 AM	WG1038814
Initial pH	9.04		11/3/2017 11:35:27 AM	WG1038814
Final pH	6.09		11/3/2017 11:35:27 AM	WG1038814

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.0100	0.20	1	11/06/2017 09:23	WG1039101

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
Arsenic	1.05		0.100	5	1	11/06/2017 00:10	WG1039127
Cadmium	0.301		0.100	1	1	11/06/2017 00:10	WG1039127
Lead	ND		0.100	5	1	11/06/2017 00:10	WG1039127



Method Blank (MB)

(MB) R3263328-1 11/04/17 15:32

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0			

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L948160-09 Original Sample (OS) • Duplicate (DUP)

(OS) L948160-09 11/04/17 15:32 • (DUP) R3263328-3 11/04/17 15:32

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	81.1	79.1	1	3		5

Laboratory Control Sample (LCS)

(LCS) R3263328-2 11/04/17 15:32

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85-115	



Method Blank (MB)

(MB) R3263286-1 11/06/17 08:37

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Mercury	U		0.00333	0.0100

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3263286-2 11/06/17 08:39 • (LCSD) R3263286-3 11/06/17 08:42

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Mercury	0.0300	0.0288	0.0286	96	95	80-120			1	20

L947457-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L947457-01 11/06/17 08:44 • (MS) R3263286-4 11/06/17 08:47 • (MSD) R3263286-5 11/06/17 08:49

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.0300	ND	0.0279	0.0282	93	94	1	75-125			1	20



Method Blank (MB)

(MB) R3263284-1 11/06/17 08:42

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Mercury	U		0.0028	0.0200

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3263284-2 11/06/17 08:44 • (LCSD) R3263284-5 11/06/17 10:00

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Mercury	0.300	0.263	0.260	88	87	80-120			1	20

L948149-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L948149-01 11/06/17 08:48 • (MS) R3263284-3 11/06/17 08:51 • (MSD) R3263284-4 11/06/17 08:53

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Mercury	0.300	ND	0.0358	0.0340	8	8	1	75-125	J6	J6	5	20



Method Blank (MB)

(MB) R3263200-1 11/05/17 22:01

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.65	2.00
Barium	U		0.17	0.500
Cadmium	U		0.07	0.500
Chromium	U		0.14	1.00
Lead	U		0.19	0.500
Selenium	U		0.74	2.00
Silver	U		0.28	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3263200-2 11/05/17 22:04 • (LCSD) R3263200-3 11/05/17 22:07

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	97.6	99.6	98	100	80-120			2	20
Barium	100	103	105	103	105	80-120			2	20
Cadmium	100	99.0	101	99	101	80-120			2	20
Chromium	100	97.3	98.8	97	99	80-120			2	20
Lead	100	99.0	101	99	101	80-120			2	20
Selenium	100	97.6	99.9	98	100	80-120			2	20
Silver	20.0	18.6	18.8	93	94	80-120			1	20

L948177-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L948177-03 11/05/17 22:10 • (MS) R3263200-6 11/05/17 22:20 • (MSD) R3263200-7 11/05/17 22:23

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	118	155	258	362	88	176	1	75-125		J3 J5	34	20
Barium	118	125	304	323	152	167	1	75-125	J5	J5	6	20
Cadmium	118	23.6	143	158	101	114	1	75-125			10	20
Chromium	118	14.6	124	141	93	107	1	75-125			13	20
Lead	118	281	420	610	117	279	1	75-125		J3 J5	37	20
Selenium	118	ND	122	120	102	100	1	75-125			2	20
Silver	23.6	ND	23.6	24.3	97	100	1	75-125			3	20



Method Blank (MB)

(MB) R3263205-1 11/05/17 22:45

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic	U		0.0333	0.100
Cadmium	U		0.0333	0.100
Lead	U		0.0333	0.100

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3263205-2 11/05/17 22:48 • (LCSD) R3263205-3 11/05/17 22:51

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	10.0	9.67	9.71	97	97	80-120			0	20
Cadmium	10.0	9.72	9.75	97	97	80-120			0	20
Lead	10.0	9.88	9.91	99	99	80-120			0	20

L947382-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L947382-01 11/05/17 22:54 • (MS) R3263205-5 11/05/17 23:01 • (MSD) R3263205-6 11/05/17 23:04

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	10.0	ND	10.1	10.2	101	102	1	75-125			1	20
Cadmium	10.0	ND	9.90	9.99	99	100	1	75-125			1	20
Lead	10.0	ND	10.0	10.1	100	100	1	75-125			1	20



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gi

8 Ai

9 Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE**.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{n/a} Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**

